

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for at least one of optical shape recording ~~and/or~~ and evaluation of optically smooth, glossy or optically rough surfaces, comprising combining ~~characterized in that~~ a photometric stereo method[[,]] and a deflectometric method and with a scattering body (S) ~~are combined~~ so that ~~the~~ positions on a surface of the scattering body ~~surface~~ are two-dimensionally encoded by selecting the shape of the scattering body (S) such that one normal vector is uniquely allocated to each position on the scattering body surface, a luminance back-scattered by the scattering body (S) is uniquely allocated to each normal vector, and the ~~back-scattered~~ back-scattering luminances are allocated to the illumination strengths of recorded images.

2. (Currently Amended) The method as ~~claimed~~ in claim 1, ~~characterized in that~~ wherein the scattering body (S) has the shape of a sphere, an ellipsoid, a rotationally symmetric body or parts thereof.

3. (Currently Amended) The method as ~~claimed~~ in ~~one of the preceding claims,~~ ~~characterized in that~~ claim 1, further comprising providing the result of the shape measurement ~~and/or recording and the~~ evaluation ~~is provided~~ in the form of a software file.

4. (Currently Amended) The method as ~~claimed~~ in ~~one of the preceding claims,~~ ~~characterized in that~~ claim 1, further comprising recording and evaluating using an electronically operating camera (K) ~~is used~~.

5. (Currently Amended) The method as ~~claimed~~ in ~~one of the preceding claims,~~ ~~characterized in that~~ claim 4, wherein the camera is a color camera (K) ~~is used~~.

6. (Currently Amended) The method as ~~claimed in one of the preceding claims,~~ characterized in that ~~the illumination is~~ claim 1, further comprising illuminating the surface with color-coded illumination.

7. (Currently Amended) The method as ~~claimed in one of the preceding claims,~~ characterized in that ~~claim 1, wherein the scattering body comprises coherent speckle noise is reduced by using an extended luminous scattering body surface~~ for reducing coherent speckle noise.

8. (Currently Amended) The method as ~~claimed in one of the preceding claims,~~ characterized in that ~~the local gradient and/or the local normal vector of the surface is visualized and/or~~ claim 1, wherein the recording and evaluating comprises at least one of visualizing and electronically ~~evaluated~~ evaluating at least one of a local gradient and a local normal vector of the surface.

9. (Currently Amended) The method as ~~claimed in one of the preceding claims,~~ characterized in that ~~at least one component of the local gradient and/or the local normal vector of the surface is visualized and/or electronically evaluated~~ claim 8, comprising at least one of visualizing and electronically evaluating at least one component of at least one of the local gradient and the local normal vector of the surface.

10. (Currently Amended) The method as ~~claimed in one of the preceding claims,~~ characterized in that ~~claim 8, wherein the at least one of the local gradient and/or and the local normal vector is represented by being encoded as~~ at least one of a grayscale and/or and color shade.

11. (Currently Amended) The method as ~~claimed in one of the preceding claims,~~ characterized in that ~~claim 9, wherein the at least one component of the~~ at least one of the local

gradient ~~and/or of~~ and the local normal vector of the surface is represented by being encoded as at least one of a grayscale ~~and/or~~ and color shade.

12. (Currently Amended) A device for optical shape measurement, for at least one of optical shape recording and evaluation of optically smooth, glossy or rough surfaces by combining a photometric stereo method and a deflectometric method comprising:

~~for carrying out a method as claimed in one of claims 1 to 11, having~~ at least one optical recorder for receiving illumination reflected off the surfaces, in particular a camera (K); and at least one light source ~~(1, 2, 3)~~ and a scattering body positioned to scatter illumination (S).

13. (Currently Amended) The device as claimed in claim 12, wherein ~~characterized in that~~ the scattering body has at least one of (S) at least partially ~~has~~ a spherical, ellipsoid ~~and/or~~ and rotationally symmetric structure.

14. (Currently Amended) The device as ~~claimed~~ in claim 12 ~~or 13, characterized in that a~~ further comprising using at least one of a microscope ~~and/or~~ and a microscope objective is used for the optical imaging.

15. (Currently Amended) The device as ~~claimed~~ in ~~one of the preceding claims 12 to 14,~~ characterized in that claim 12, wherein the light source comprises at least one or more light-emitting diodes are used diode for the illumination.

16. (Currently Amended) The device as ~~claimed~~ in ~~one of the preceding claims 12 to 15,~~ characterized in that claim 12, wherein the light source comprises at least one or more flash lamps are used lamp for the illumination.

17. (New) The device as claimed in claim 12, wherein the optical recorder comprises a camera.

18. (New) The method as claimed in claim 1, further comprising illuminating the surface.